

Service Manual

STEREO RECEIVER

SX-3400

 **PIONEER**

MODEL SX-3400 COMES IN THREE VERSIONS DISTINGUISHED AS FOLLOWS:

| Type | Voltage | Remarks |
|------|--|----------------------|
| KU | 120V only | U.S.A. model |
| KC | 120V only | Canada model |
| S | 110V, 120V, 220V and 240V (switchable) | General export model |

This service manual is applicable to the KU type. When repairing S type, please see the additional service manual (page 25 – 32).

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1. SPECIFICATIONS

Amplifier Section

Continuous power output of 15 watts* per channel, min., at 8 ohms from 20 Hertz to 20,000 Hertz with no more than 0.08% total harmonic distortion.

Total Harmonic Distortion (20 Hertz to 20,000 Hertz, 8 ohms, from AUX)

continuous rated power output
 No more than 0.08%
 7.5 watts per channel power output
 No more than 0.08%
 1 watt per channel power output
 No more than 0.08%

Intermodulation Distortion (50 Hertz to 7,000 Hertz = 4:1, 8 ohms, from AUX)

continuous rated power output
 No more than 0.08%
 7.5 watts per channel power output
 No more than 0.08%
 1 watt per channel power output
 No more than 0.08%

Damping Factor (20 Hertz to 20,000 Hertz, 8 ohms)
 30

Input (Sensitivity/Impedance)

PHONO 2.5mV/50 kilohms
 AUX, TAPE PLAY 150mV/50 kilohms

Phono Overload Level (T.H.D. 0.1%, 1,000Hz)

PHONO 140mV

Output (Level/Impedance)

TAPE REC 150mV/2.2 kilohms
 Speaker 4 to 16 Ω

Frequency Response

PHONO (RIAA Equalization)
 30Hz to 15,000Hz \pm 1dB
 AUX, TAPE PLAY
 20Hz to 80,000Hz \pm 3dB

Tone Control

BASS \pm 8dB (100Hz)
 TREBLE \pm 8dB (10kHz)

Loudness Contour (Volume control set at -40dB position)
 +6dB (100Hz)

Hum and Noise (IHF, short-circuited, A network)

PHONO 70dB
 AUX, TAPE PLAY 98dB

FM Tuner Section

Usable Sensitivity (IHF) 12.1dBf (2.2 μ V)

50 dB Quieting Sensitivity

MONO 17.2dBf (4 μ V)
 STEREO 39.2dBf (50 μ V)

Signal-to-Noise Ratio (at 65dBf)

MONO 75dB
 STEREO 70dB

Distortion (at 65dBf)

MONO 1kHz; 0.5%
 STEREO 1kHz; 0.3%

Capture Ratio 2.5dB

Alternate channel Selectivity

400kHz 60dB

Stereo Separation

1kHz 45dB
 30Hz to 15kHz 30dB

Frequency Response 30Hz to 15kHz $+0.5$
 -1.0 dB

Spurious Response Ratio 65dB

Image Response Ratio 65dB

IF Response Ratio 90dB

AM Suppression Ratio 50dB

Subcarrier Product Ratio 30dB

SCA Rejection Ratio 60dB

Muting Threshold 25dBf (9.74 μ V)

Antenna Input 300 ohms balanced,
 75 ohms unbalanced

AM Tuner Section

Sensitivity (IHF, ferrite antenna) 270 μ V/m
 (IHF, ext. antenna) 11 μ V

Selectivity 27dB

Signal-to-Noise Ratio 52dB

Image Response Ratio 32dB

IF Response Ratio 40dB

Antenna Ferrite loopsstick antenna

Miscellaneous

Power Requirements AC 120V, 60Hz

Power Consumption 60W (UL)

Dimensions 444(W) x 128(H) x 292(D) mm
 17-1/2(W) x 5-1/16(H) x 11-1/2(D) in

Weight (without package) 5.5kg (12 lb 2 oz)

Furnished Parts

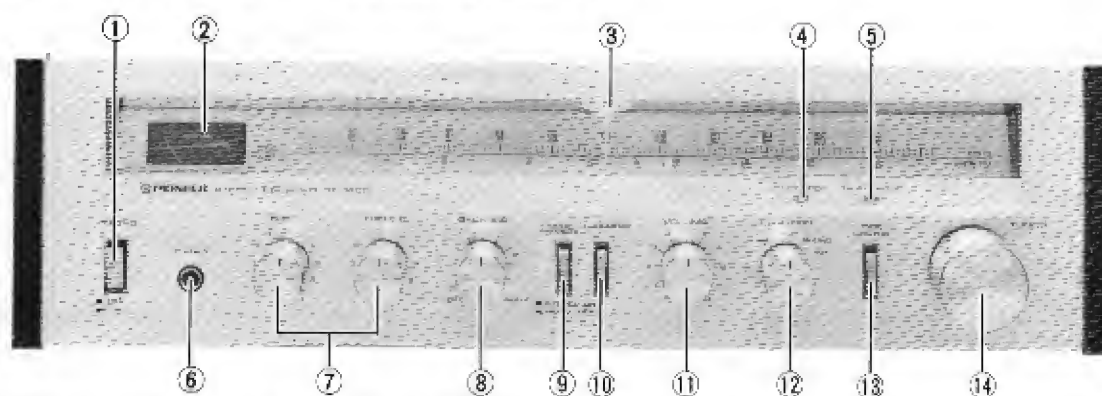
Operating instructions 1
 FM T-type antenna 1

**Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifiers.*

NOTE:

Specifications and the design subject to possible modifications without notice due to improvements.

2. FRONT PANEL FACILITIES



Walnut grained vinyl metal top and walnut grained vinyl side panels are used in the construction of this cabinet.

① POWER SWITCH

Depress this switch to supply power to the receiver.

② SIGNAL METER

This meter indicates the antenna input level of the broadcasting wave. The higher the input level, the more the meter deflects toward right. When selecting the desired station, find the position of the tuning knob which effects the maximum deflection of the meter pointer.

③ DIAL POINTER

This pointer indicates the broadcasting stations.

④ FM STEREO INDICATOR

This indicator lights up when the tuner is receiving a stereo program.

⑤ TAPE MONITOR INDICATOR

When the tape monitor switch is set to ON, this indicator lights up. This lamp indicates the receiver is monitoring or playing back the tape on the tape deck connected to the TAPE jacks.

⑥ HEADPHONE JACK

Plug the headphones into this jack when you want to listen through your stereo headphones.

NOTE:

When the headphone plug is connected to this jack, the sound will no longer be heard through the speakers.

⑦ BASS AND TREBLE CONTROLS

Use these controls to adjust the bass and the treble. If you turn the bass control to the right from its center position, you will be able to emphasize the sound in the low-frequency range. Conversely, turning this control left from the center position, you will attenuate the sound in the low-frequency range.

You can use the treble control to adjust the sound in the high-frequency range.

⑧ BALANCE CONTROL

Use this control to balance the volume of the left and right channels. If the sound appears to be louder on the right, it means that the volume of the right channel is higher. Turn the balance control to the left and adjust.

Conversely, if the sound appears to be louder on the left, it means that the volume of the left channel is higher. Therefore, turn the balance control to the right and adjust.

⑨ MODE/FM MUTING SWITCH

This switch is a combination of the FM muting switch and the mode selector switch. When the switch is left undepressed (STEREO/ON), the reproduction is in stereo mode, while the FM muting function acts to suppress unpleasant interstation noise while listening to FM broadcasting.

When the switch is depressed (MONO/OFF position), however, reproduction is in mono mode, while the FM muting function does not act, thus enabling suitable reception of weak radio stations when tuning in to the FM broadcasting station.

NOTE:

Recording stereophonically with the mode/FM muting switch in the MONO/OFF position may cause deterioration in channel separation.

⑩ LOUDNESS SWITCH

When listening to a performance with the volume control turned down, depress this switch and the bass will be accentuated.

When the volume is low, the human ear finds it harder to hear the bass than when the volume is high. The loudness switch is thus designed to compensate for this deficiency. By depressing this switch, the bass come through much more strongly and the sound takes on a punch even when the volume control is turned down.

⑪ VOLUME CONTROL

Use this control to adjust the output level to the speakers and headphones. Turn it clockwise to increase the output level. No sound will be heard if you set it to "0"

⑫ FUNCTION SELECTOR

Use this selector to select the program source.

AM: Set here when receiving an AM broadcast.

FM: Set here when receiving an FM broadcast.

PHONO: Set here when playing records on a turntable connected to the PHONO jacks.

AUX: Set here when listening to a program source which is connected to the AUX jacks.

⑬ TAPE MONITOR SWITCH

Depress the switch with a tape deck which is connected to the TAPE jack (REC and PLAY) when you want to monitor the playback or recording of a tape.

NOTE:

Release this switch when listening to records or a broadcasting.

⑭ TUNING KNOB

This knob is used for selection station. When selecting station, observe the signal meter.

3. DISASSEMBLY

Side Board L and R

Remove the four screws ❶.

Top Plate

Remove the three screws ❷.

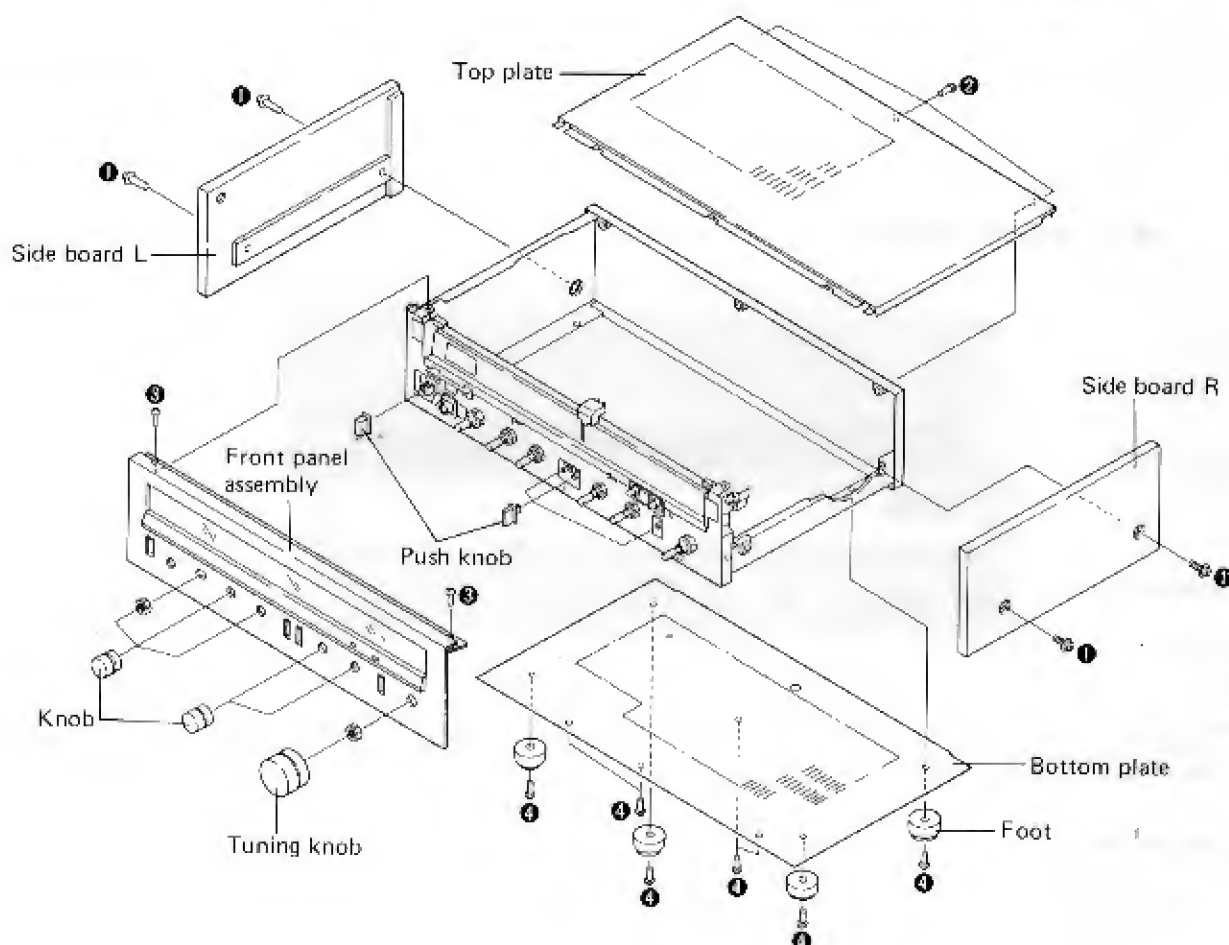
Front Panel Assembly

1. Pull off the all control knobs.

2. Remove the two screws ❸.

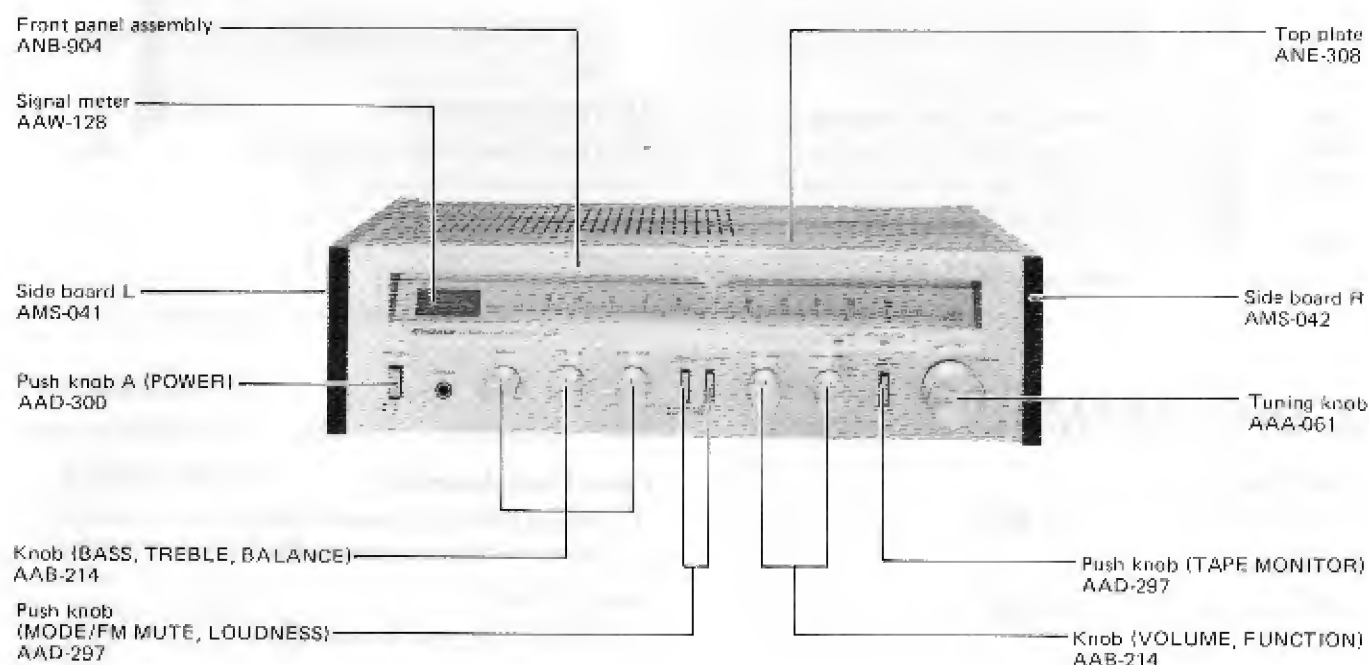
Bottom Plate

Remove the eight screws ❹.




4. PARTS LOCATION

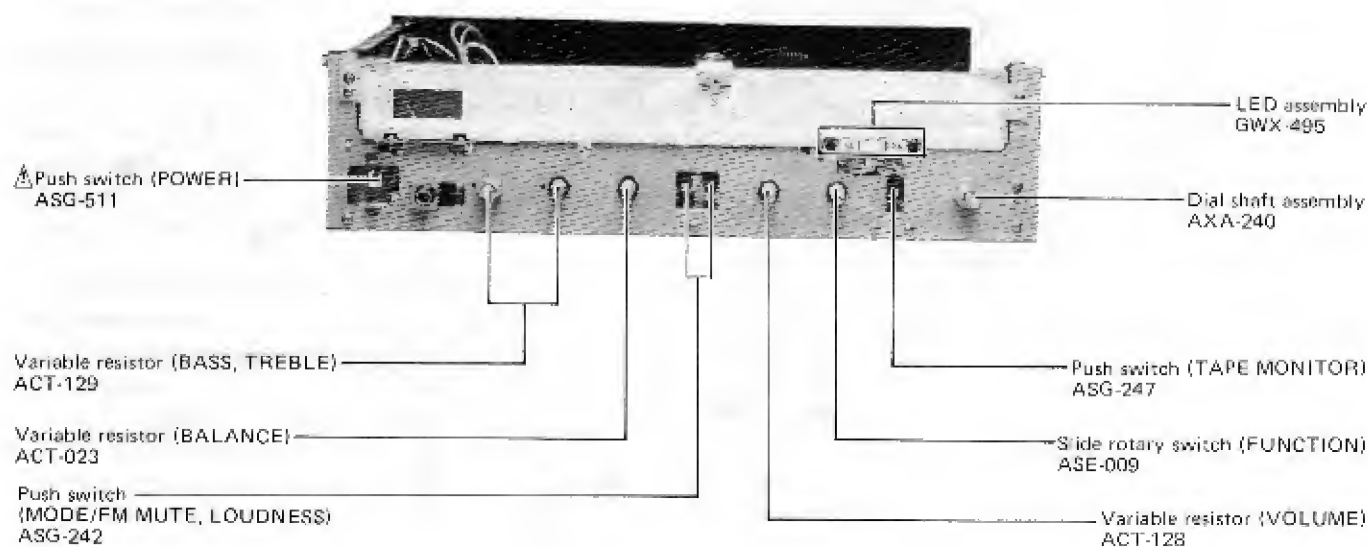
Front Panel View



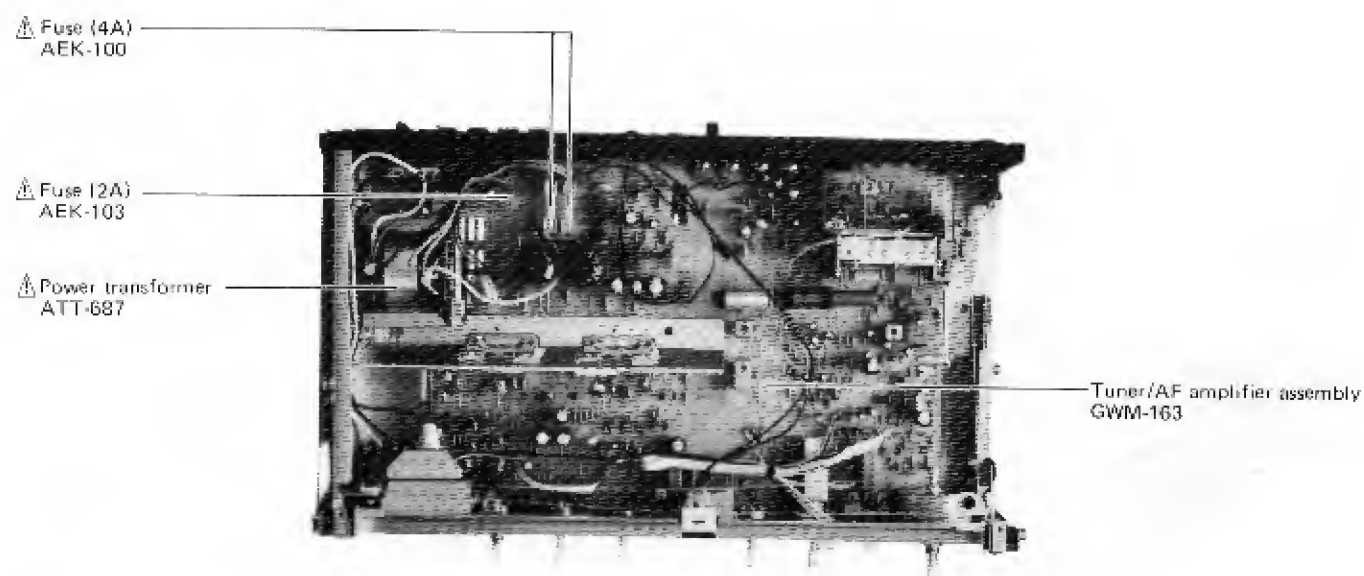
NOTE:

- The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

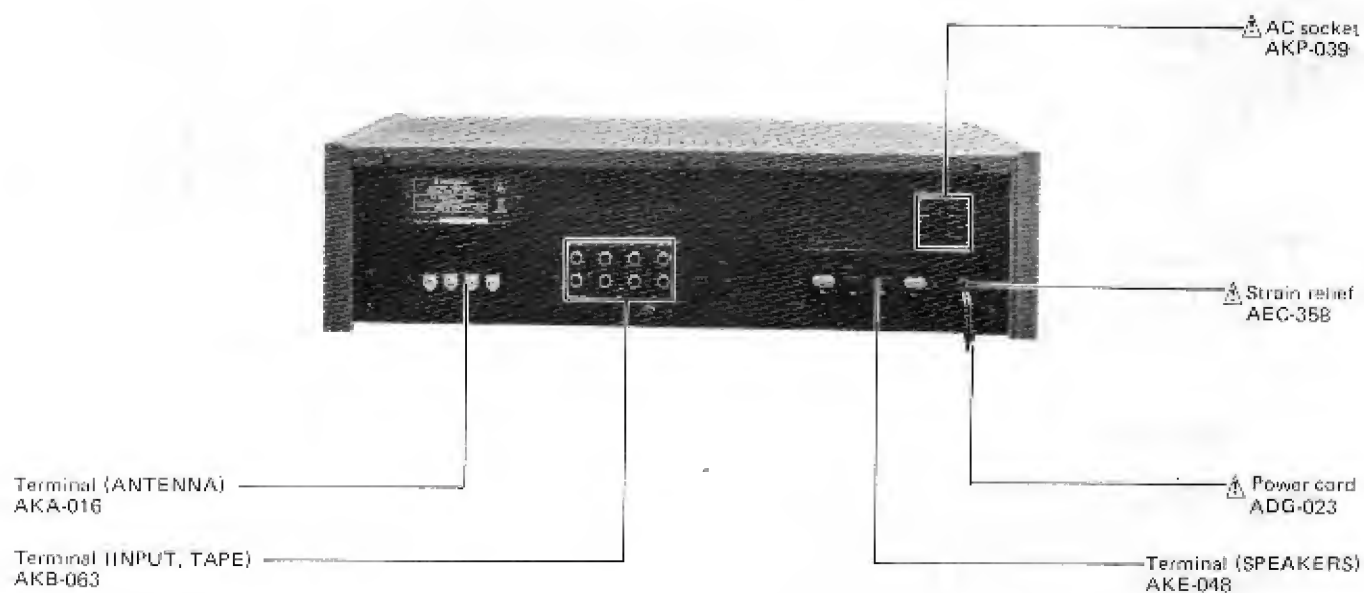
Front View with Front Panel Removed



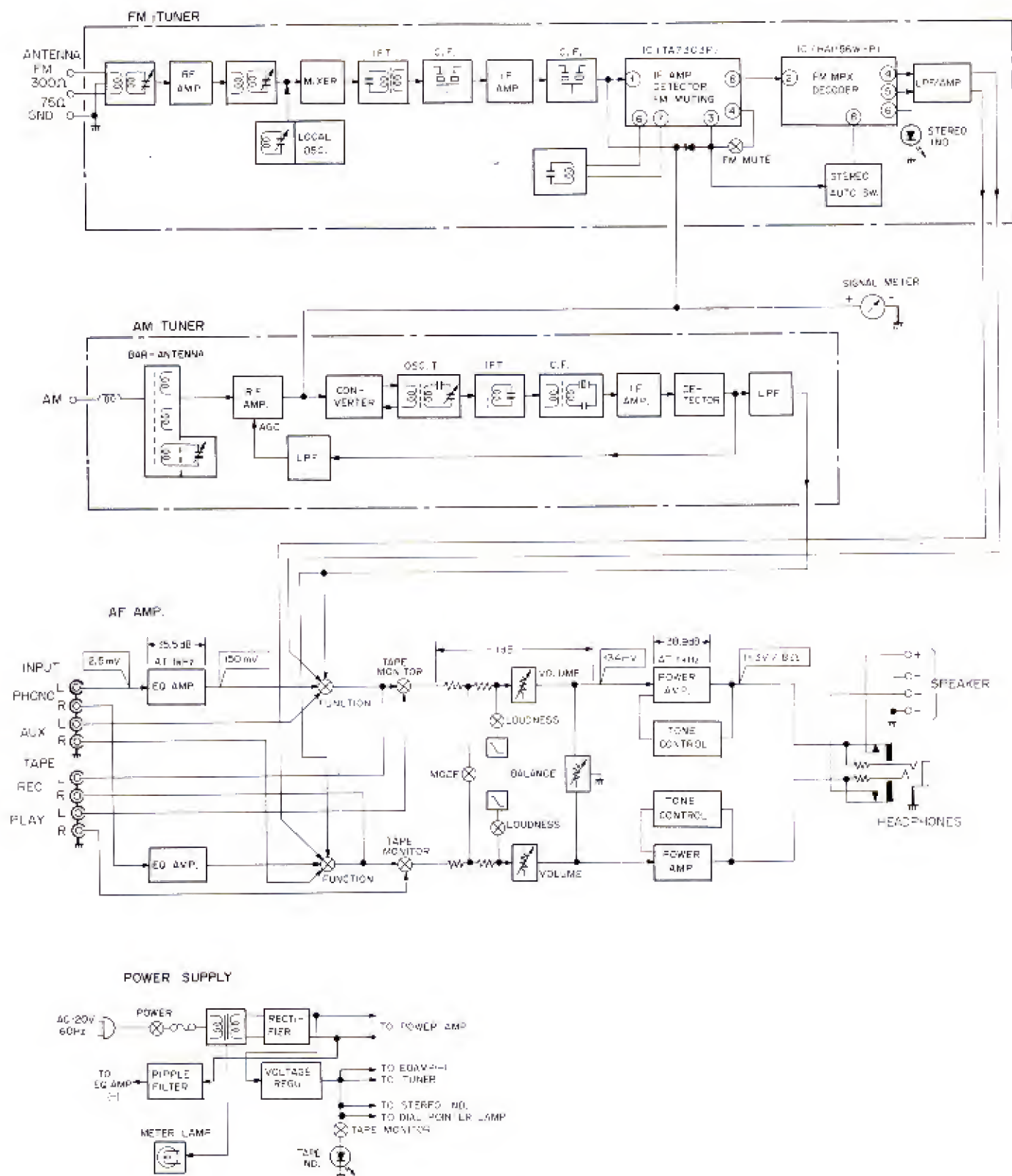
Top View with Top Plate Removed



Rear Panel View



5. BLOCK DIAGRAM



6. CIRCUIT DESCRIPTIONS

AM Tuner

The AM tuner stage employs a 2-ganged tuning capacitor, a single-element ceramic filter, an NPN transistor RF amplifier, a PNP transistor mixer (converter), and an NPN transistor IF amplifier.

FM Tuner

The FM front end is comprised of a J-FET (2SK168) single-stage RF amplifier, an NPN transistor mixer, and an NPN transistor modified Clapp type local oscillator.

The IF stage consists of 2 dual-element ceramic filters (selector elements), and an IF system IC (TA7303P) which incorporates the IF limiter amplifier, FM detector, meter drive circuit, and an FM muting circuit.

The stereo detector stage employs an FM stereo demodulator IC (HA1156W-P), while the pilot signal leak (19kHz) and sub-carrier signal (frequencies above 23kHz) are removed by an 18dB/oct. active filter consisting of a PNP transistor. This active filter also serves as an amplifier for frequencies within its passband, and eliminates crosstalk.

Equalizer Amplifier

This circuit is an NFB type equalizer amplifier, with one high-performance IC (NJM4558DX) in both L and R channels.

This IC is a low noise type, and provide an open-loop gain of 70dB. The main performance specifications for this circuit include a voltage gain of 35.5dB (at 1kHz), a phono dynamic margin or overload level of 140mV (at 1kHz, THD 0.1%), and equalization within ± 1 dB (30Hz — 15kHz).

Power Amplifier

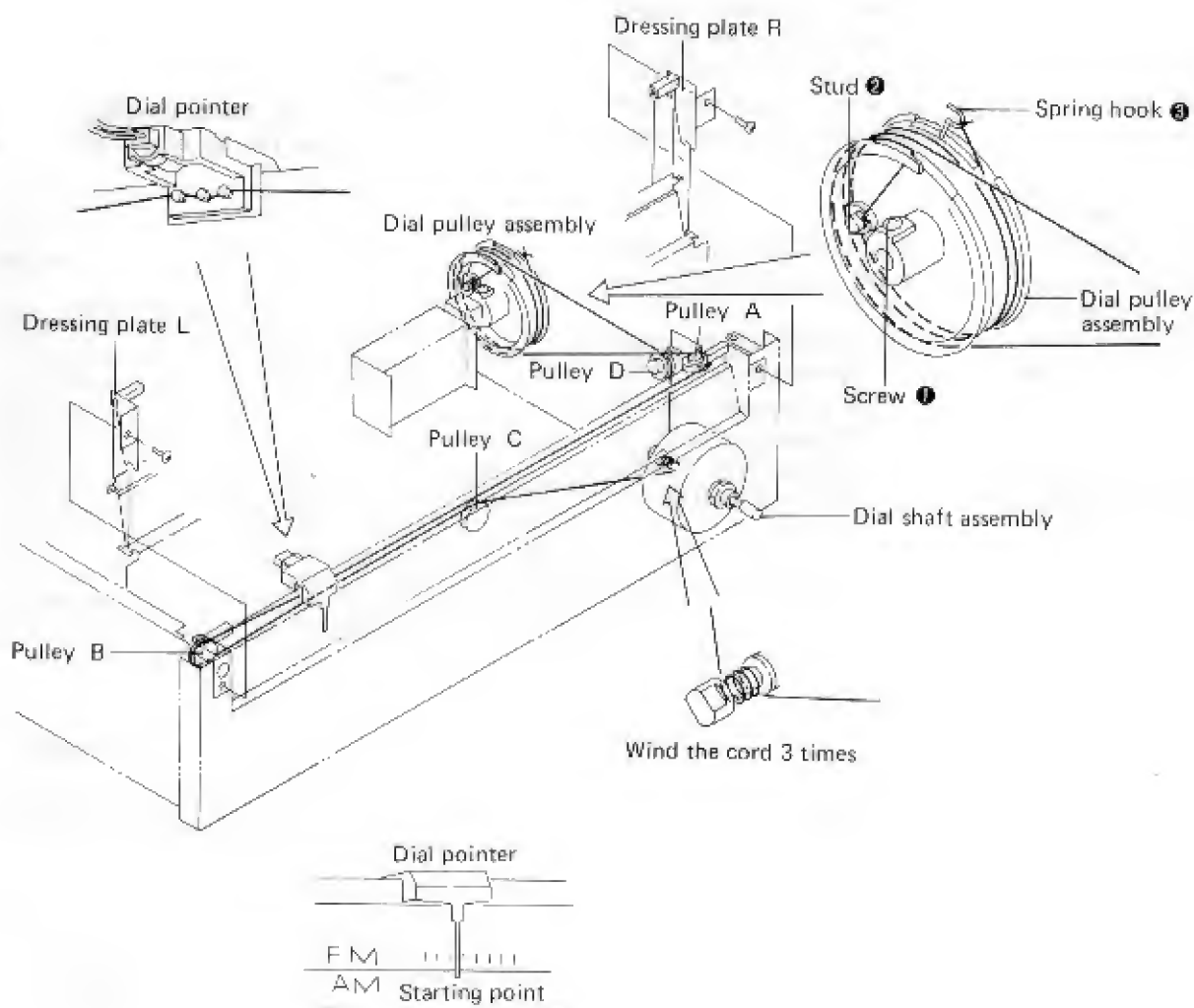
This all-stage direct-coupled pure complementary SEPP circuit features a current mirror load differential amplifier in the first stage, and incorporates the tone control circuits in the NFB loop.

Although the incorporation of the tone control circuits in the power amplifier stage reduces the number of elements that the signal has to pass through, and thereby further reduces noise, distortion, and cost, the power stage does require a higher gain and a higher degree of stability. In the SX-3400, this high gain and high stability are achieved by a current mirror load differential amplifier in the first stage and by the use of a constant current circuit for the load of the pre-driver stage.

The power amplifier stage is a complementary 2-stage Darlington connection, resulting in an output power rating of 15W + 15W (8Ω , 20Hz — 20kHz), harmonic distortion of less than 0.08% (20Hz — 20kHz at rated output). Certainly a superb performance for an amplifier of this class is obtained.

7. DIAL CORD STRINGING

1. Remove the dial pulley assembly from the shaft of the tuning capacitor by undoing screw ①.
2. Tie one end of the cord to the stud ② located inside the dial pulley assembly.
3. Rotate the tuning capacitor right around until the rotor blades are fully intermeshed.
4. Secure the dial pulley assembly back onto the shaft of the tuning capacitor, making sure that the securing screws ① faces directly upward.
5. Pass the cord out through the small opening in the circumference of the dial pulley assembly, and then take it over pulleys A, B and C in that sequence.
6. Wind the cord around the dial shaft 3 times.
7. Pass it over pulley D, wind it around the dial pulley assembly 2 times, and finally tie it to the spring hook ③ so that it is tensioned.
8. Turn the dial shaft, and check that the cord moves smoothly. Cut off any excess cord.
9. Turn the dial shaft counter-clockwise as far as it will go.
10. Align the dial pointer with the starting point of the dial scale, and then pass the cord over it.
11. Check that the dial pointer is in line with the starting point of the dial scale.
12. Finally apply the locking paint to the cord securing positions (stud ③ and spring hook ④) and the dial pointer connection.



8. ADJUSTMENTS

8.1 IDLE CURRENT ADJUSTMENT

1. Connect an 8Ω resistor to the speaker output terminals.
2. Turn to VOLUME control down to minimum level, turn the power on, and wait about 10 minutes.
3. Connect a DC voltmeter to the TP terminals of the Tuner/AF assembly; TP1 (+) and TP2 (-) for L ch, and TP3 (+) and TP4 (-) for R ch.
4. Check that the voltage between TP1 and TP2, and TP3 and TP4 lies within the DC 2mV – 250mV range. If the voltage is less than 2mV, cut jumper wire A for L ch, and jumper wire B for R ch. If the voltage exceeds 250mV, check for circuit failure.

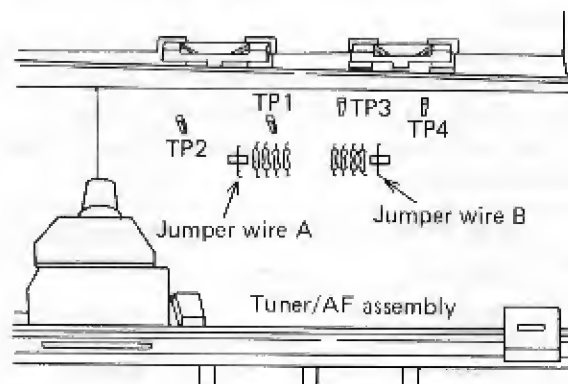


Fig. 8-1 Idle current adjustment

8.2 AM TUNER

- Connect the AM SG (AM signal generator) to the AM ANTENNA terminal via $1k\Omega$ resistor.
- Set the FUNCTION selector to the AM position.

| Step | AM SG (400Hz, 30% MOD.) | | Position of tuning dial | Adjustment point | Adjustment method |
|------|-------------------------------|-------|-------------------------|---------------------|---|
| | Frequency | Level | | | |
| 1 | 600kHz | 100dB | 600kHz | T4 | Obtain maximum deflection of the SIGNAL meter |
| 2 | 1400kHz | | 1400kHz | TC5 | |
| 3 | 600kHz | 30dB | 600kHz | TC4, T3 bar-antenna | |
| 4 | 1400kHz | | 1400kHz | TC5, TC4 | |
| 5 | Repeat steps 3 to 4 as above. | | | | |
| 6 | 1000kHz | 30dB | 1000kHz | F3 | |

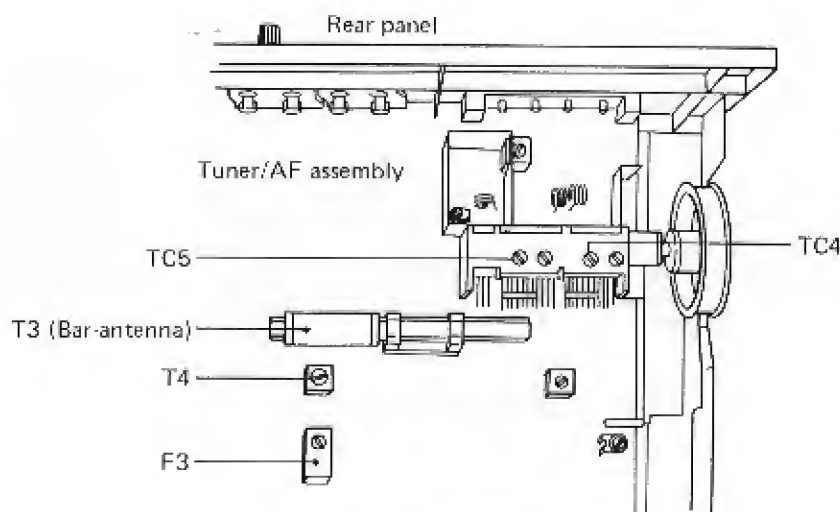


Fig. 8-2 AM tuner adjustment

8.3 FM TUNER

- Connect the FM SG (FM signal generator) to the FM antenna 300Ω terminal.
- Switch the FUNCTION selector to the FM position, the MODE/FM MUTE switch to the OFF/ MONO position.
- The tuning coils in the FM front end does not have an adjusting core. Consequently, tracking adjustments at 90MHz are performed by regulating the gap between rotor and stator of the tuning capacitors (VC1, VC2, VC3). The expression "adjust VC" found in the text means that the two outer rotor blades of each of these tuning capacitors are to be extended outwards with spatula (Part No. GGGK-066) as shown in Fig. 8-3.

| Step | FM SG (400Hz, ±75kHz DEV.) | | Position of tuning dial | Adjustment point | Adjustment method |
|------|------------------------------|-------|-------------------------|------------------|--|
| | Frequency | Level | | | |
| 1 | 106MHz | 106dB | 106MHz | TC3 | Obtain maximum deflection of the SIGNAL meter |
| 2 | 90MHz | | 90MHz | VC3 | |
| 3 | 106MHz | 20dB | 106MHz | T1, TC1, TC2 | |
| 4 | 90MHz | | 90MHz | VC1, VC2 | |
| 5 | Repeat steps 3 to 4 as above | | | | |
| 6 | 98MHz | 66dB | 98MHz | T2 | Reduce distortion in the output ITAPE REC terminal to minimum. |

Multiplex Decoder

- Connect the MPX SG (FM multiplex generator) to the FM SG external modulator terminal.
- Set the FM SG output to 98MHz and 66dB (modulation mode to external), and tune the SX-3400 to this position.
- Set the MODE/FM MUTE switch to the ON/STEREO position.

| Step | FM MPX SG | Adjustment point | Adjustment method |
|------|--|--|---|
| 1 | No signal (unmodulated) | VR5 | Obtain a 19kHz signal at TP terminal (No.9). |
| 2 | Main: 1kHz, L+R, ±67.5kHz DEV. Pilot: 19kHz, ±7.5kHz DEV. | T1 (by up to 90° in either direction) | Reduce distortion in the output (TAPE REC terminal) to a minimum. |

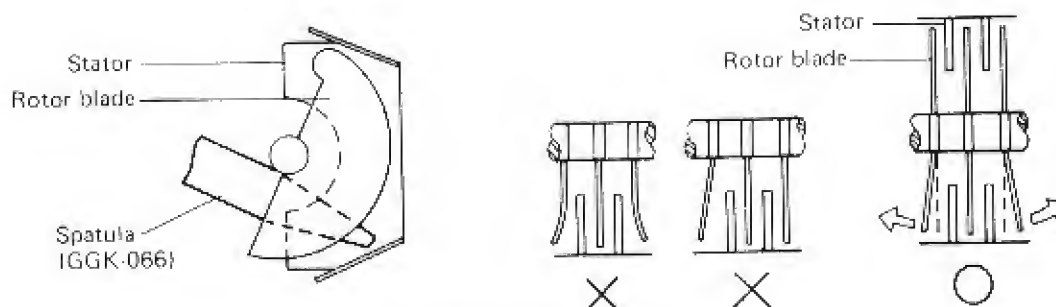


Fig. 8-3 Tuning capacitor adjustment

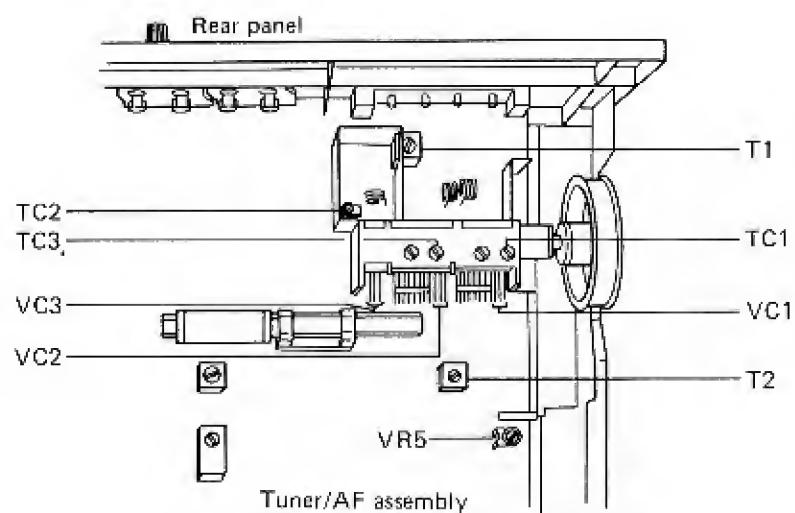
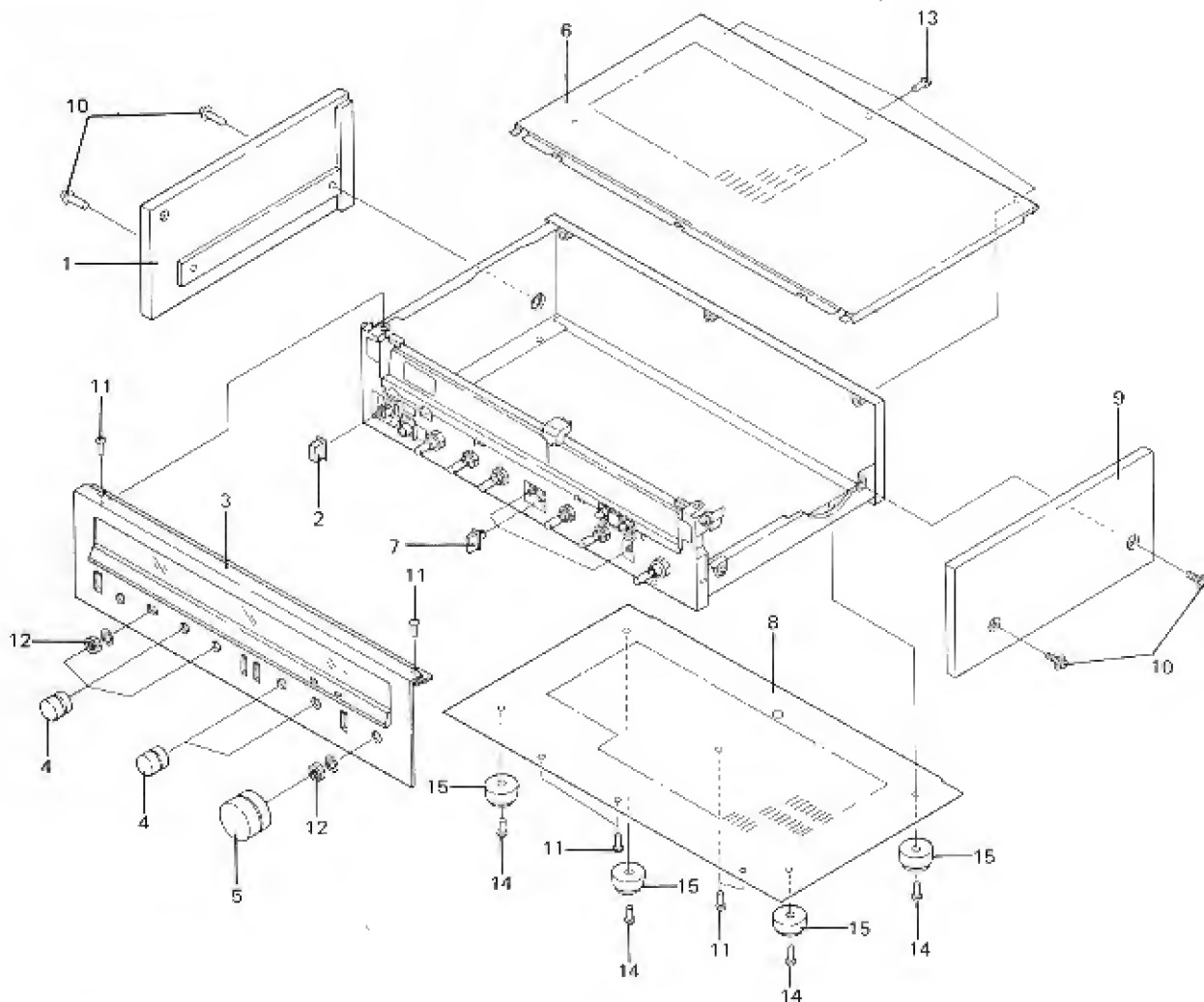


Fig. 8-4 FM tuner adjustment

9. EXPLODED VIEWS

Exterior Components



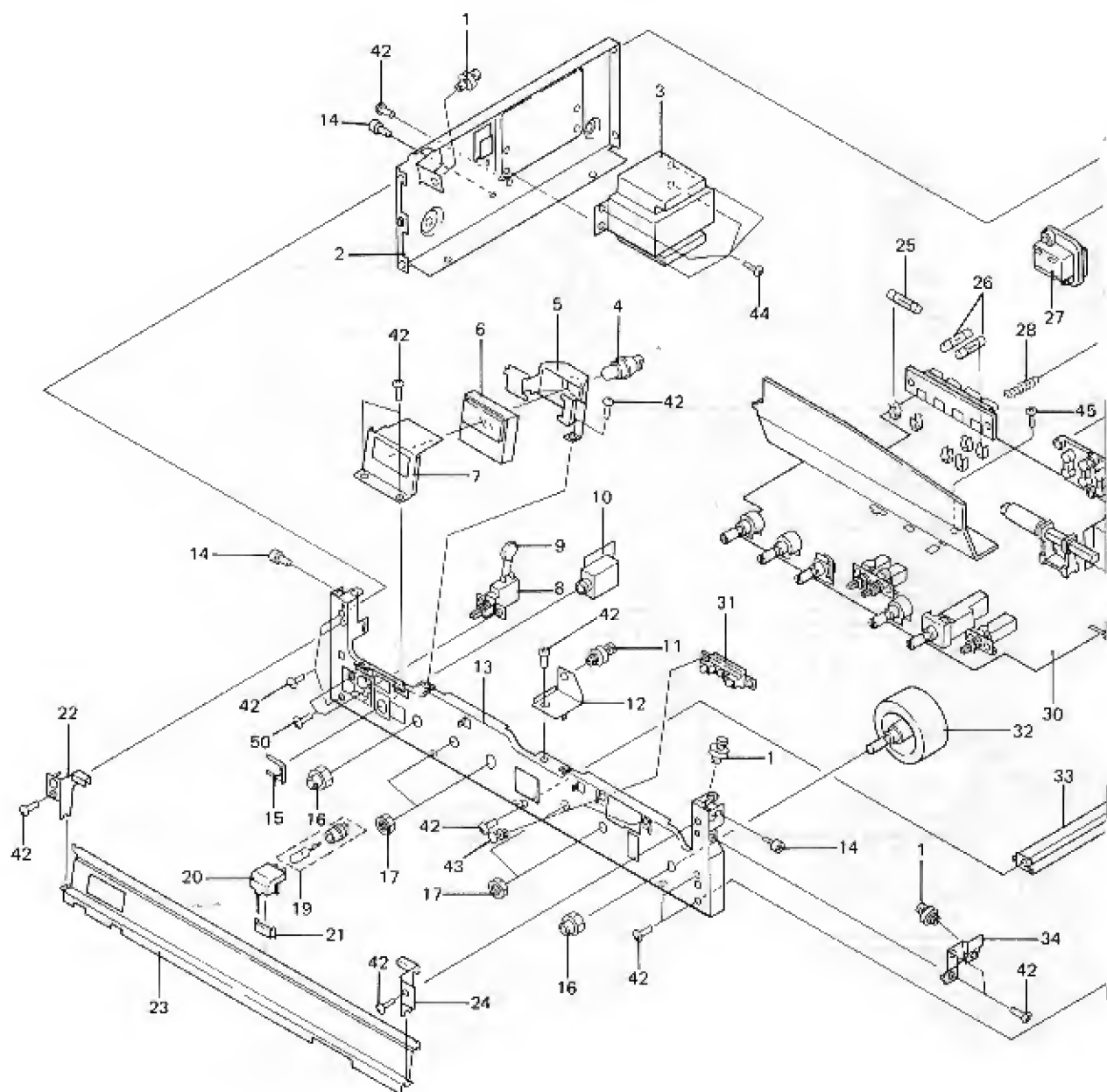
Parts List

NOTES:

- Parts without part number cannot be supplied.
- The $\frac{A}{B}$ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

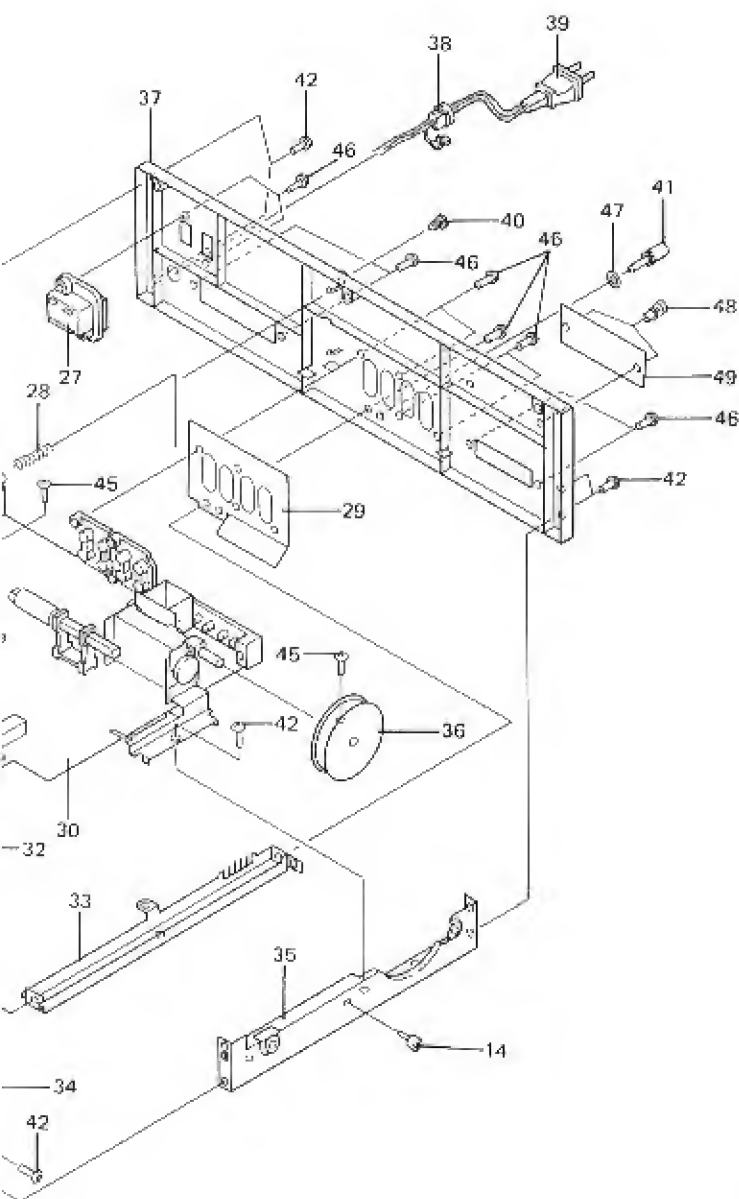
| Key No. | Part No. | Description | Key No. | Part No. | Description |
|---------|--------------|----------------------|---------|--------------|------------------|
| 1. | AMS-041 | Side board L | 11. | VBZ30P060FMC | Screw |
| 2. | AAD-300 | Push knob A | 12. | ABN-024 | Washer faced nut |
| 3. | ANB-904 | Front panel assembly | 13. | VBZ30P100FZK | Screw |
| 4. | AAB-214 | Knob | 14. | VTZ40P160FMC | Screw |
| 5. | AAA-061 | Tuning knob | 15. | AEC-178 | Foot assembly |
| 6. | ANE-308 | Top plate | | | |
| 7. | AAD-297 | Push knob | | | |
| 8. | | Bottom plate | | | |
| 9. | AMS-042 | Side board R | | | |
| 10. | DCZ40P150FZK | Screw | | | |

Interior Components



Parts List

| Key No. | Part No. | Description |
|---------|--------------|-----------------------------|
| 1. | | Pulley assembly |
| 2. | | Side frame L |
| 3. | ATT-687 | Power transformer |
| 4. | AEL-119 | Lamp (wedge type) |
| 5. | ANG-296 | Meter holder B |
| 6. | AAW-128 | Signal meter |
| 7. | ANG-298 | Meter holder A |
| 8. | ASG-511 | Push switch |
| 9. | ACG-017 | Capacitor |
| 10. | GWX-496 | Headphones assembly |
| 11. | AEC-579 | Small pulley |
| 12. | ANG-297 | Pulley holder |
| 13. | | Front stay |
| 14. | ABA-204 | Tapping screw |
| 15. | | Mount plate |
| 16. | ABN-047 | Boss |
| 17. | NK90FUC | Nut |
| 18. | | |
| 19. | AEL-140 | Lamp with wires |
| 20. | | Dial pointer assembly |
| 21. | | Smother |
| 22. | | Dial dressing plate L |
| 23. | | Dial panel |
| 24. | | Dial dressing plate R |
| 25. | AEK-103 | Fuse 2A |
| 26. | AEK-100 | Fuse 4A |
| 27. | AKP-039 | AC socket |
| 28. | | Wire holder |
| 29. | | Shield plate |
| 30. | GWM-163 | Tuner/AF amplifier assembly |
| 31. | GWX-495 | LED assembly |
| 32. | AXA-240 | Dial shaft assembly |
| 33. | | Center frame |
| 34. | | Pulley holder |
| 35. | | Side frame R |
| 36. | AXA-113 | Dial pulley assembly |
| 37. | | Rear panel |
| 38. | AEC-358 | Stain relief |
| 39. | ADG-023 | Power cord |
| 40. | | Clip |
| 41. | | Screw (for ground) |
| 42. | MTZ30P100FZK | Screw |
| 43. | AEC-441 | Rivet |
| 44. | VTZ40P080FMC | Screw |
| 45. | BBT30P080FZK | Screw |
| 46. | MTZ30P100FZK | Screw |
| 47. | WA35F100N080 | Washer |
| 48. | AEC-441 | Rivet |
| 49. | | Plate |
| 50. | PMZ30PD60FMC | Screw |



10. SCHEMATIC DIAGRAM, P.C. BOARD CONNECTION DIAGRAM

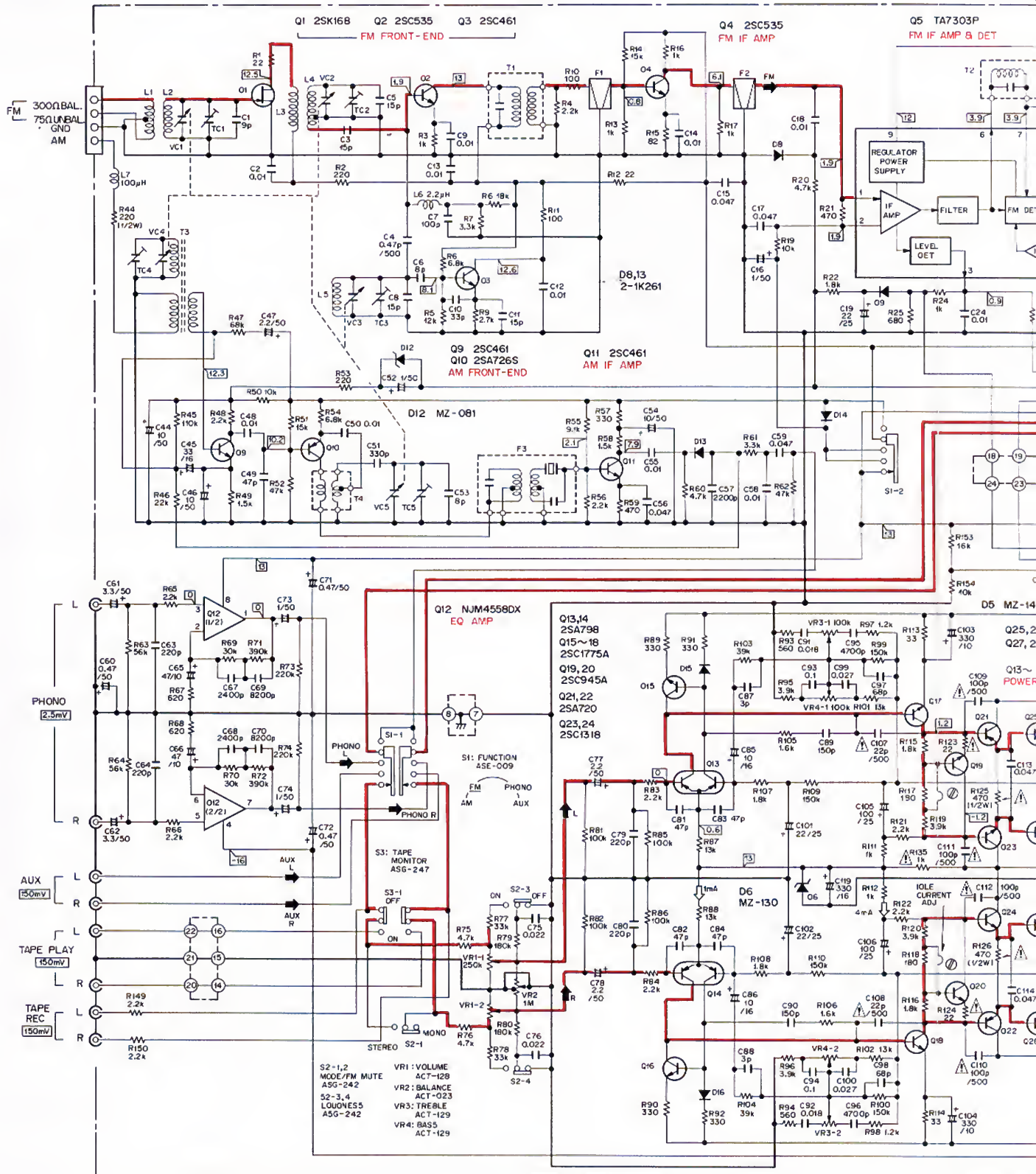
10.1 SCHEMATIC DIAGRAM

A

B

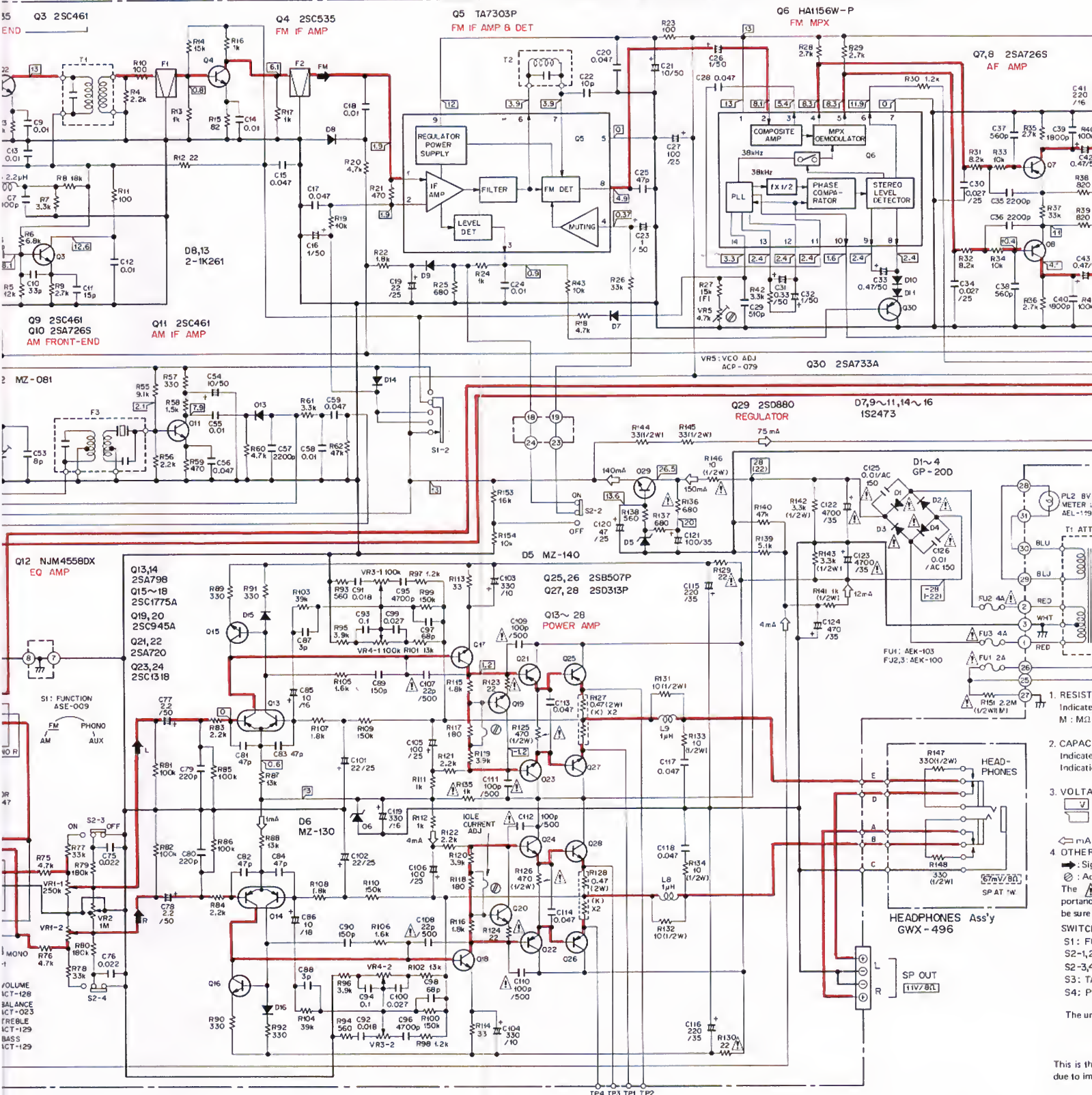
C

D



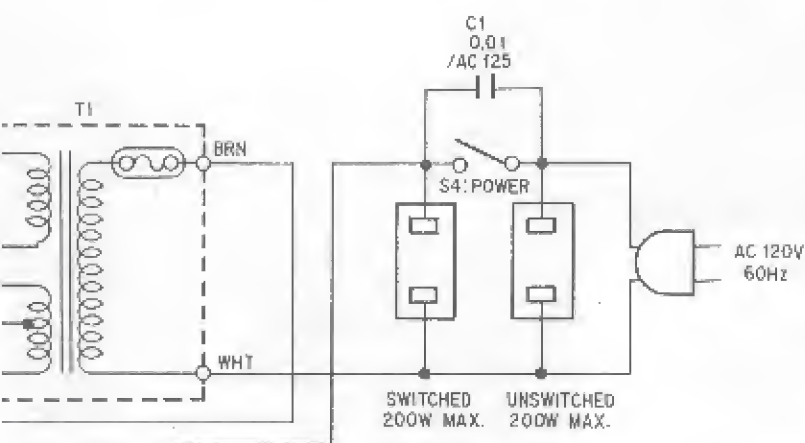
| | | | |
|--|---|---|---|
| | 3 | 4 | 5 |
|--|---|---|---|

TUNER / AF AMP Ass'y GWM-163



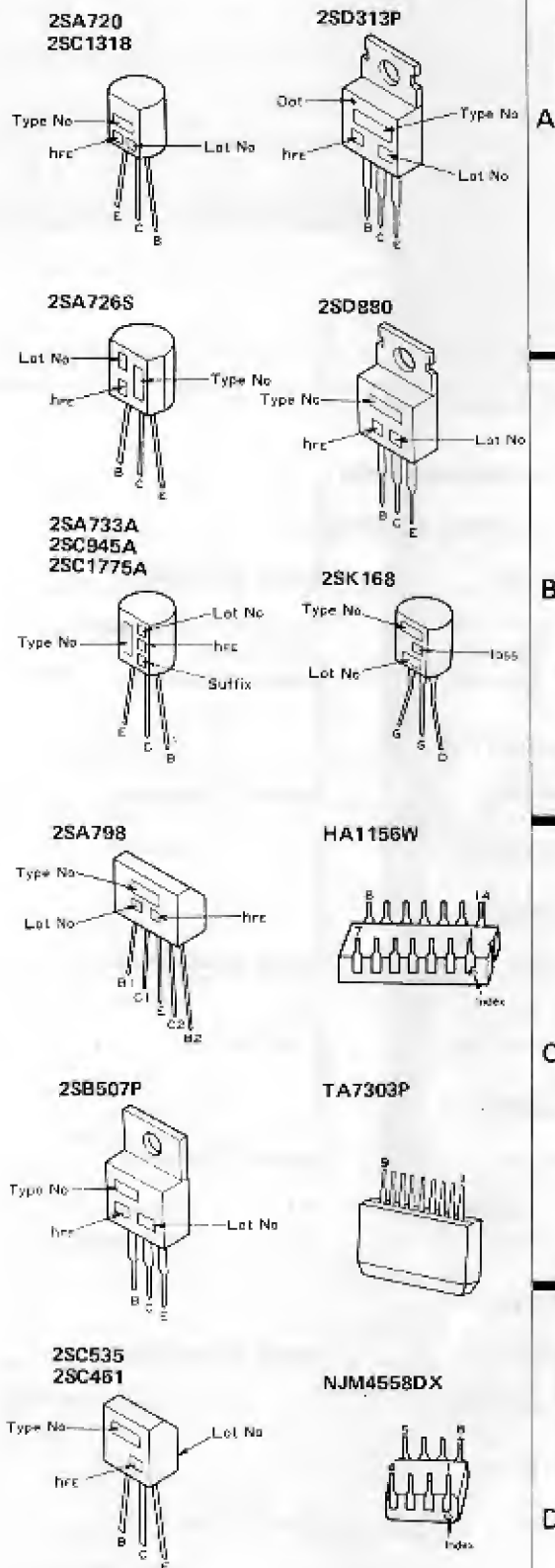
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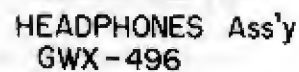
This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.



ONES Ass'y
496

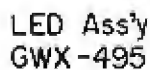
External Appearance of Transistors and ICs





3

D



10.3 PARTS LIST

NOTE:

When ordering resistors, first convert resistance values into code forms shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω 56 × 10¹ 561 RD4PS 5 6 1 J


47kΩ 47 × 10³ 473 RD4PS 4 7 3 J

0.5Ω 0R5 RN2H 0 R 5 K

1Ω 010 RSIP 0 1 0 K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ 562 × 10¹ 5621 RN4SR 5 6 2 1 F

- The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

Miscellaneous Parts



P.C. BOARD ASSEMBLIES

| Part No. | Symbol & Description |
|----------|-----------------------------|
| GWM-163 | Tuner/AF amplifier assembly |
| GWX-495 | LED assembly |
| GWX-496 | Headphones assembly |

CAPACITOR

| Part No. | Symbol & Description |
|---|----------------------|
|  ACG-017 | C1 Capacitor |


FUSES

| Part No. | Symbol & Description |
|---|----------------------|
|  AEK-103 | FU1 2A |
|  AEK-100 | FU2, FU3 4A |




LAMPS

| Part No. | Symbol & Description |
|----------|---------------------------|
| AEL-140 | PL1 Pilot lamp with wires |
| AEL-119 | PL2 Lamp (wedge type) |

SWITCH

| Part No. | Symbol & Description |
|---|------------------------|
|  ASG-511 | S5 Push switch (POWER) |

OTHERS

| Part No. | Symbol & Description |
|---|----------------------|
| AAW-128 | T1 Signal meter |
|  ATT-687 | Power transformer |
|  AKP-039 | AC socket |
|  ADG-023 | Power cord |

Tuner/AF Amplifier Assembly (GWM-163)

SWITCHES

| Part No. | Symbol & Description |
|----------|---|
| ASE-009 | S1 Slide rotary switch (FUNCTION) |
| ASG-247 | S3 Push switch (TAPE) |
| ASG-242 | S2 Push switch (MODE/FM MUTE, LOUDNESS) |

TRANSFORMERS, FILTERS AND COILS

| Part No. | Symbol & Description |
|----------|----------------------------|
| ATE-039 | T1 FM matching transformer |
| ATE-044 | T2 FM detector transformer |
| ATB-622 | T3 Bar antenna assembly |
| ATB-066 | T4 AM OSC coil |
| ATF-053 | F1, F2 FM ceramic filter |
| ATF-084 | F3 AM ceramic filter |
| T24-028 | L6 RF choke coil |

CAPACITORS

| Part No. | Symbol & Description |
|---------------|------------------------|
| ACK-012 | VC1 Variable capacitor |
| ACM-006 | TC3 Ceramic trimmer |
| CCDUJ 090D 50 | C1 |
| CCDSL 030C 50 | C87, C88 |
| CCDPH 080D 50 | C6 |
| CCDXL 080D 50 | C53 |
| CCDSL 100D 50 | C22 |
| CCDUJ 150J 50 | C5 |
| CCDCH 150J 50 | C11 |
| CCDRH 150J 50 | C8 |
| CCDSL 150J 50 | C3 |
| CCDCH 330J 50 | C10 |

| Part No. | Symbol & Description |
|----------------|---|
| CCDSL 470J 50 | C25, C49, C81—C84 |
| CCDSL 680J 50 | C97, C98 |
| CCDSL 101J 50 | C7 |
| CCDSL 151J 50 | C89, C90 |
| CCDSL 221J 50 | C63, C64, C79, C80 |
| CKDYB 182K 50 | C39, C40 |
| CKDYB 222K 50 | C35—C37 |
| CKDYB 472K 50 | C95, C96 |
| CKDYA 822J 50 | C69, C70 |
| CKDYF 103Z 50 | C2, C9, C12—C14, C18, C24, C48, C50, C55, C58 |
| CKDYF 223Z 50 | C75, C76 |
| CKDYX 273M 25 | C30, C34 |
| CKDYF 473Z 50 | C15, C17, C20, C28, C56, C59, C113, C114 |
| CCDSL 561J 50 | C37, C38 |
| CCDSL 220K 500 | C107, C108 |
| CCDSL 101K 500 | C109—C112 |
| CQMA 242J 50 | C67, C68 |
| CQMA 183K 50 | C91, C92 |
| CQMA 273K 50 | C99, C100 |
| CQMA 473K 50 | C117, C118 |
| CQMA 104K 50 | C93, C94 |
| CQSH 331J 50 | C51 |
| CQSH 511J 50 | C29 |
| CEA R47M 50L | C42, C43, C60, C71, C72 |
| CEA 010M 50L | C16, C23, C26, C52 |
| CEA 2R2M 50L | C47 |
| CEA 100M 50L | C21, C44, C46, C54 |
| CEA 220M 25L | C19, C101, C102 |
| CEA 330M 16L | C45 |
| CEA 470M 10L | C65, C66 |
| CEA 470M 25L | C120 |
| CEA 101M 25L | C27, C105, C106 |
| CEA 221M 16L | C41 |
| CEA 221M 35L | C115, C116 |
| CEA 331M 10L | C103, C104 |
| CEA 331M 16L | C119 |
| CEA 471M 35L | C124 |
| CEANL R33M 50 | C31 |
| CEANL R47M 50 | C33 |
| CEANL 010M 50 | C32, C73, C74 |
| CEANL 2R2M 50 | C77, C78 |
| CEANL 3R3M 50 | C81, C82 |
| CEANL 100M 16 | C85, C86 |
| CG8 R47K 500 | C4 |
| ACH-217 | C122, C123 |
| ACG-004 | C125, C126 |
| CEA 101M 35L | C121 |

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

RESISTORS

| Part No. | Symbol & Description |
|--------------|--|
| ACT-128 | VR1 Variable resistor (VOLUME) |
| ACT-023 | VR2 Variable resistor (BALANCE) |
| ACT-129 | VR3, VR4 Variable resistor (BASS, TREBLE) |
| ACP-079 | VR5 Semi-fixed resistor |
| ACN-118 | R127, R128 Cement coated |
| ACN-029 | R151 |
| RD%PM □□□ J | R1—R26, R28—R43, R45—R122, R136—R140, R149, R150, R153, R154 |
| RN%PQ □□□□ J | R27 |
| RD%PS □□□ J | R44, R131—R134, R141—R145 |
| RD%PSF □□□ J | R125, R126, R146 |
| RD%PMF □□□ J | R123, R124, R129, R130, R135 |

SEMICONDUCTORS

| Part No. | Symbol & Description |
|-----------|----------------------|
| 2SK168 | Q1 |
| 2SC535 | Q2, Q4 |
| 2SC461 | Q3, Q9, Q11 |
| TA73D3P-C | Q5 |
| HA1156W-P | Q6 |
| 2SA7265 | Q7, Q8, Q10 |
| NJM4558DX | Q12 |
| 2SA798 | Q13, Q14 |
| 2SC1775A | Q15—Q18 |
| 2SC945A | Q19, Q20 |
| 2SA720 | Q21, Q22 |
| 2SC1318 | Q23, Q24 |
| 2SB507P | Q25, Q26 |
| 2SD313P | Q27, Q28 |
| 2SD880 | Q29 |
| (2SD313) | |
| 2SA733A | Q30 |
| GP-20D | D1—D4 |
| KZL-140 | D5 |
| KZL-130 | D6 |
| 1S2473 | D7, D9—D11, D14—D16 |
| (1S1555) | |
| 2-1K261 | D8, D13 |
| MZ-081 | D12 |

OTHERS

| Part No. | Symbol & Description |
|--------------|------------------------|
| AKA-016 | Terminal (ANTENNA) |
| AKE-048 | Terminal (SPEAKERS) |
| AKB-063 | Terminal (INPUT, TAPE) |
| AEC-248 | Insulator spacer |
| VBZ30P060FMC | Screw |
| BBT30P080FZK | Screw |
| PMZ30P040FMC | Screw |
| PMZ30P060FMC | Screw |

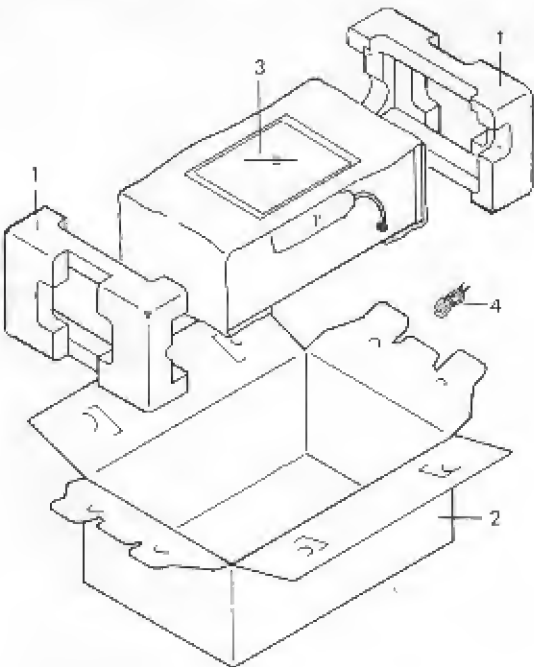
LED Assembly (GWX-495)

| Part No. | Symbol & Description |
|----------|----------------------|
| AEL-324 | D17, D18 |

Headphones Assembly (GWX-496)

| Part No. | Symbol & Description |
|------------|----------------------|
| AKN-029 | Headphones jack |
| RD%PS 331J | R147, R148 |

11. PACKING



Parts List

| Key No. | Part No. | Description |
|---------|----------|------------------------|
| 1. | AHA-253 | Side pad |
| 2. | AHD-777 | Packing case |
| 3. | ARB-368 | Operating instructions |
| 4. | ADH-004 | FM antenna |

ADDITIONAL

 PIONEER®

Service Manual

SX-3400

- The basic performance of the SX-3400/S type is the same as the SX-3400/KU type. This additional service manual is applicable to the S type, please refer to the KU type service manual (page 2 – page 24) with exception of this supplement.

1. SPECIFICATIONS


The specifications for S type is the same as the KU type except for following sections:

Miscellaneous

Power requirements AC110V, 120V, 220V
and 240V (switchable)
50/60Hz

2. CONTRAST OF MISCELLANEOUS PARTS







NOTES:

- Parts without part number cannot be supplied.
- The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

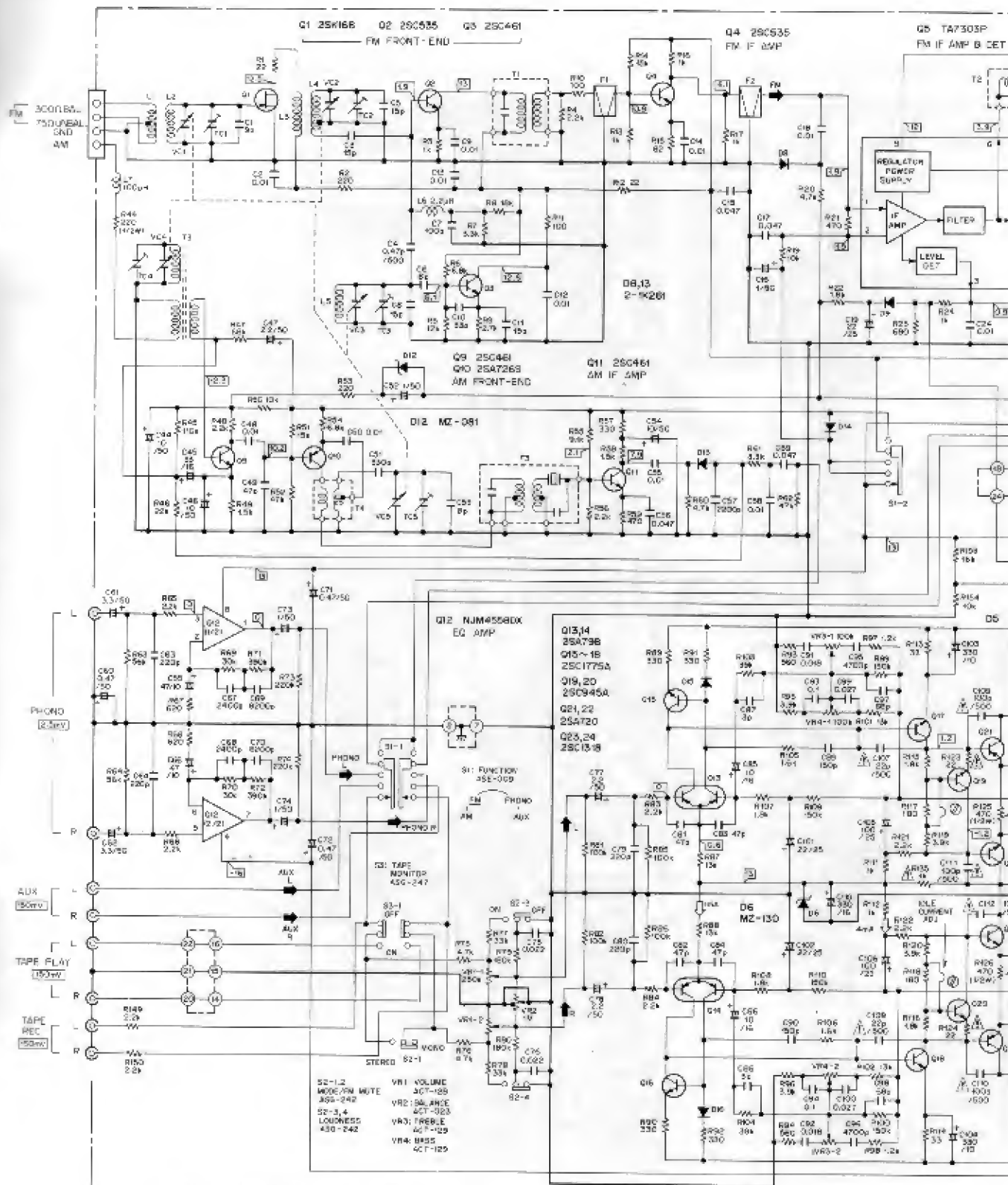
P.C. BOARD ASSEMBLIES

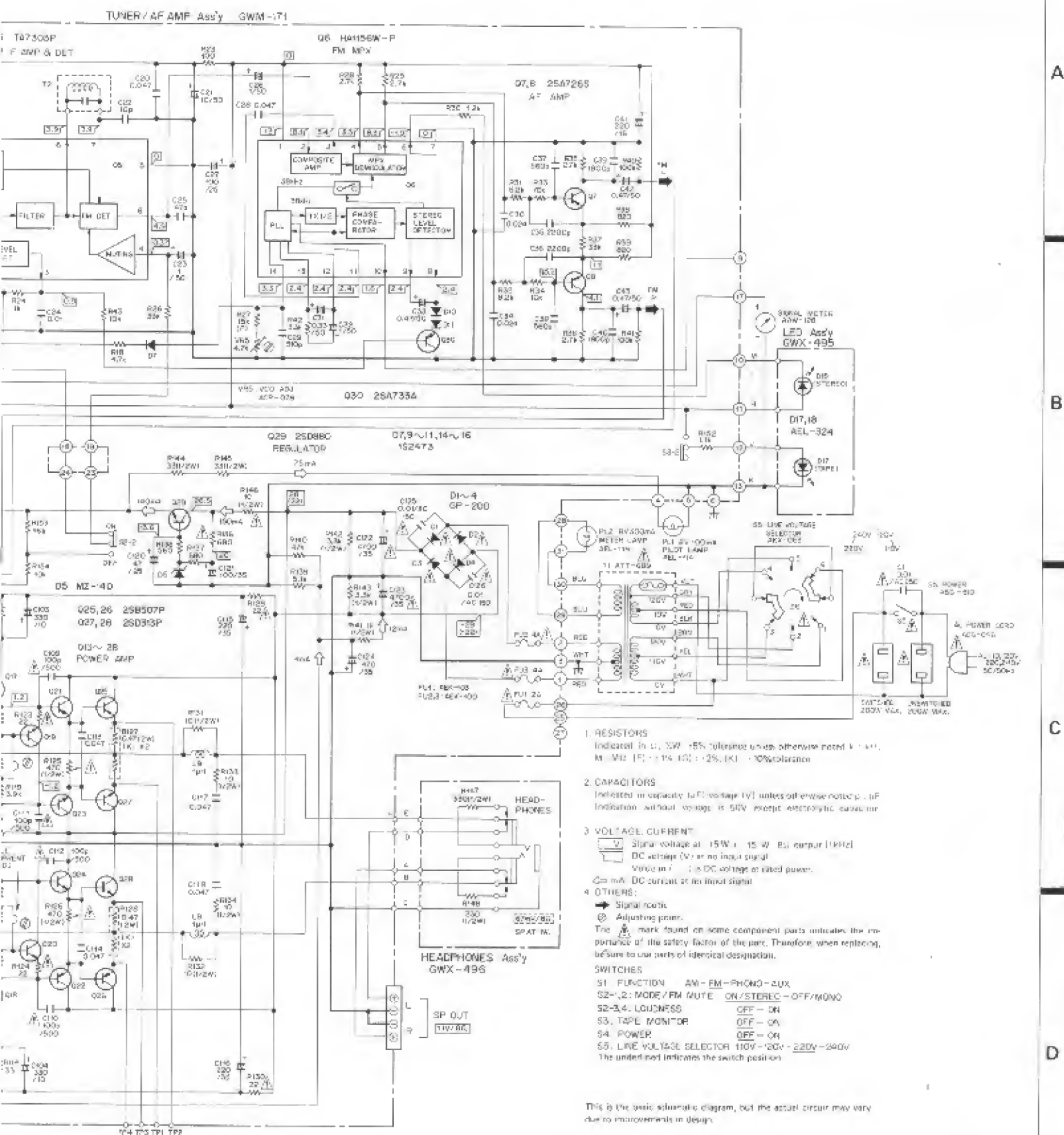
| Symbol | Description | Part No. | | Remarks |
|--------|-----------------------------|----------|---------|---------|
| | | KU type | S type | |
| | Tuner/AF amplifier assembly | GWM-163 | GWM-171 | |
| | LED assembly | GWX-495 | GWX-495 | |
| | Headphones assembly | GWX-496 | GWX-496 | |

OTHERS

| Symbol | Description | Part No. | | Remarks |
|--|------------------------|-----------------------|-----------------------|-------------------------------------|
| | | KU type | S type | |
|  T1 | Power transformer | ATT-687 | ATT-689 | POWER Switchable 4 positions |
|  C1 | Capacitor | ACG-017 (0.01/125) | ACG-001 (0.01/250) | |
|  S5 | Push switch | ASG-511 | ASG-510 | |
|  S2 | Line voltage selector | | AKX-063 | |
| PL1 | Pilot lamp with wire | AEL-140 | AEL-114 | |
|  | Power cord | ADG-023 | ADG-046 | |
|  | Strain relief | AEC-358 | AEC-337 | |
| | Operating instructions | ARB-368 | ARB-380 | |

3. SCHEMATIC DIAGRAM





This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

4 P.C. BOARD DIAGRAM

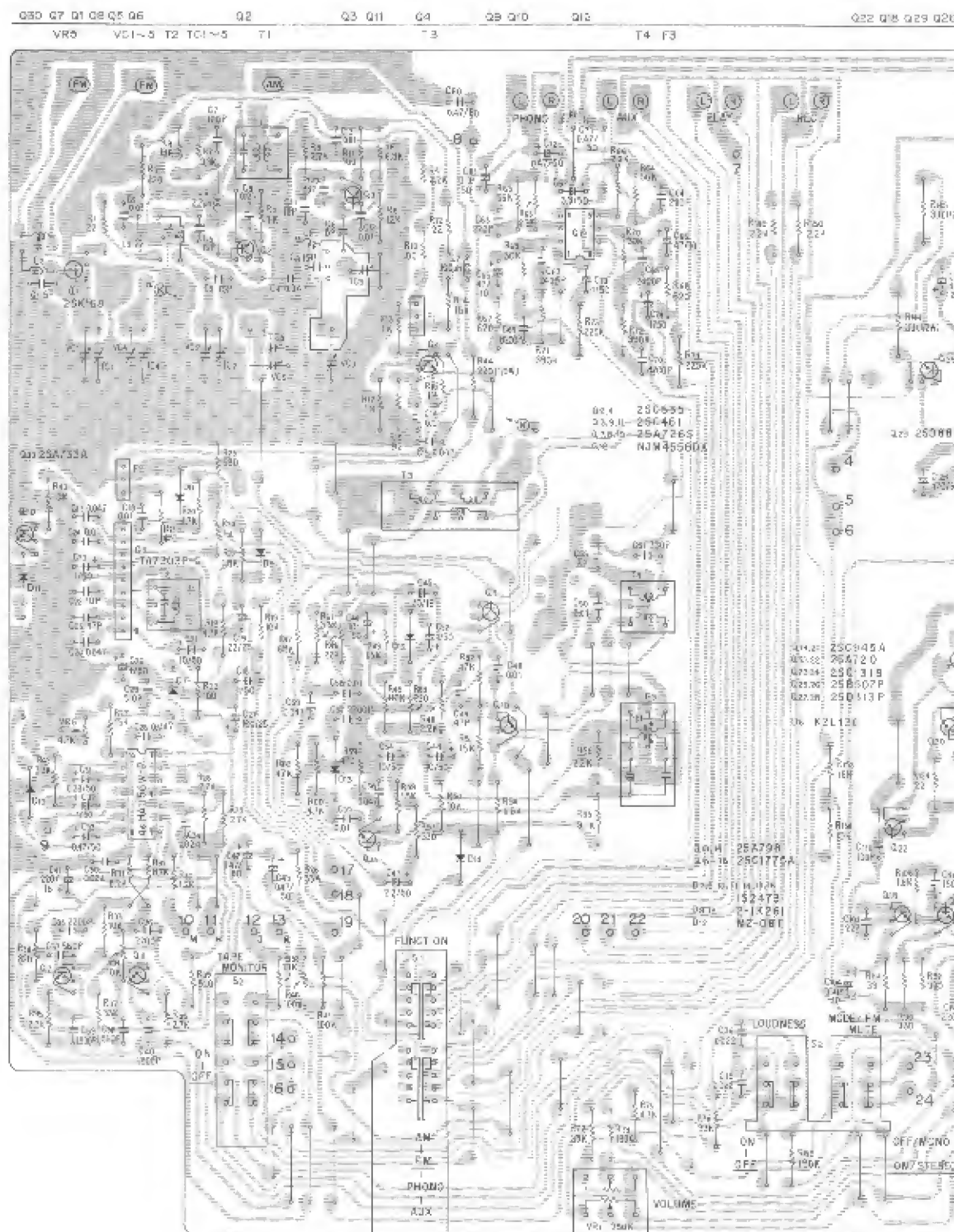
Tuner/AF Amplifier Assembly (GWM-171)

A

B

C

D



A

B

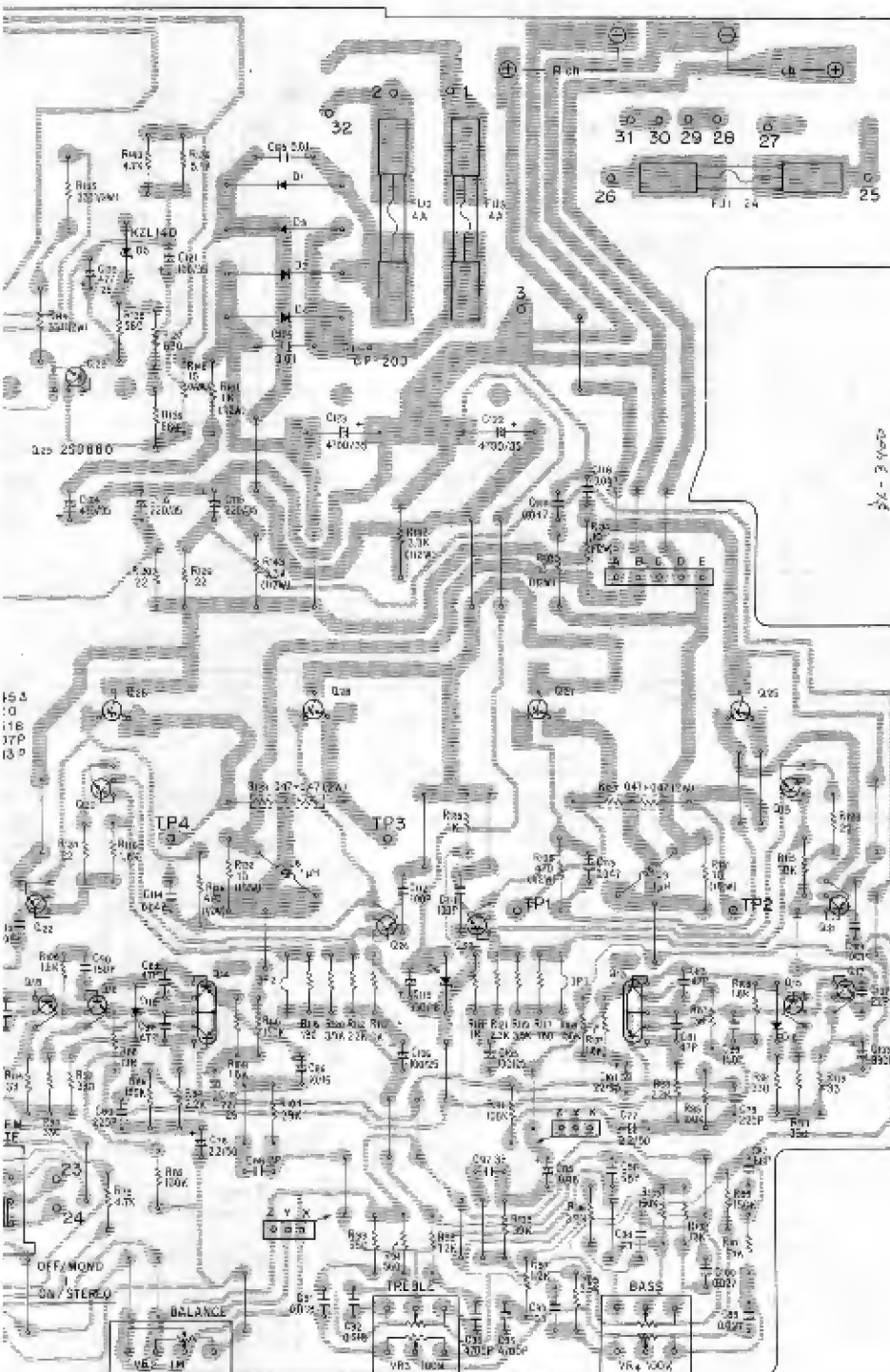
C

D

2 Q18 Q29 Q26 Q20 Q16 Q14 Q28 Q24 Q23 Q27 Q13 Q25 Q15 Q19 Q21 Q17

JP2

JP1



5. PARTS LIST

Tuner/AF Amplifier Assembly (GWM-171)

SWITCHES

| Part No. | Symbol & Description | |
|----------|----------------------|--------------------------------------|
| ASE-009 | S1 | Slide rotary switch (FUNCTION) |
| ASG-247 | S3 | Push switch (TAPE) |
| ASG-242 | S2 | Push switch (MODE/FM MUTE, LOUDNESS) |

TRANSFORMERS, FILTERS AND COILS

| Part No. | Symbol & Description | |
|----------|----------------------|-------------------------|
| ATE-039 | T1 | FM matching transformer |
| ATE-044 | T2 | FM detector transformer |
| ATB-622 | T3 | Bar antenna assembly |
| ATB-066 | T4 | AM OSC coil |
| ATF-053 | F1, F2 | FM ceramic filter |
| ATF-084 | F3 | AM ceramic filter |
| T24-028 | L6 | RF choke coil |

CAPACITORS

| Part No. | Symbol & Description | |
|----------------|---|--------------------|
| ACK-012 | VC1 | Variable capacitor |
| ACM-006 | TC3 | Ceramic trimmer |
| CCDUJ 090D | C1 | |
| CCDSL 030C 50 | C87, C98 | |
| CCDPH 080D 50 | C6 | |
| CCDXL 080D 50 | C53 | |
| CCDSL 100D 50 | C22 | |
| CCDUJ 150J 50 | C5 | |
| CCDCH 150J 50 | C11 | |
| CCDPH 150J 50 | C8 | |
| CCDSL 150J 50 | C3 | |
| CCDCH 330J 50 | C10 | |
| CCDSL 470J 50 | C25, C49, C81—C84 | |
| CCDSL 680J 50 | C97, C98 | |
| CCDSL 101J 50 | C7 | |
| CCDSL 151J 50 | C89, C90 | |
| CCDSL 221J 50 | C63, C64, C79, C80 | |
| CKDYB 182K 50 | C39, C40 | |
| CKDYB 222K 50 | C35—C37 | |
| CKDYB 472K 50 | C95, C96 | |
| CKDYA 822J 50 | C69, C70 | |
| CKDYF 103Z 50 | C2, C9, C12—C14, C18, C24, C48, C50, C55, C58 | |
| CKDYF 223Z 50 | C75, C76 | |
| CQMA 243K 50 | C30, C34 | |
| CKDYF 473Z 50 | C15, C17, C20, C28, C56, C59, C113, C114 | |
| CCDSL 561J 50 | C37, C38 | |
| CCDSL 220K 500 | C107, C108 | |

| Part No. | Symbol & Description | |
|----------------|-------------------------|--|
| CCDSL 101K 500 | C109—C112 | |
| CQMA 242J 50 | C67, C68 | |
| CQMA 183K 50 | C91, C92 | |
| CQMA 273K 50 | C99, C100 | |
| CQMA 473K 50 | C117, C118 | |
| CQMA 104K 50 | C93, C94 | |
| CQSH 331J 50 | C51 | |
| CQSH 511J 50 | C29 | |
| CEA R47M 50L | C42, C43, C60, C71, C72 | |
| CEA 010M 50L | C16, C23, C26, C52 | |
| CEA 2R2M 50L | C47 | |
| CEA 100M 50L | C21, C44, C46, C54 | |
| CEA 220M 25L | C19, C101, C102 | |
| CEA 330M 16L | C45 | |
| CEA 470M 10L | C65, C66 | |
| CEA 470M 25L | C120 | |
| CEA 101M 25L | C27, C105, C106 | |
| CEA 221M 16L | C41 | |
| CEA 221M 35L | C115, C116 | |
| CEA 331M 10L | C103, C104 | |
| CEA 331M 16L | C119 | |
| CEA 471M 35L | C124 | |
| CEANL R33M 50 | C31 | |
| CEANL R47M 50 | C33 | |
| CEANL 010M 50 | C32, C73, C74 | |
| CEANL 2R2M 50 | C77, C78 | |
| CEANL 3R3M 50 | C61, C62 | |
| CEANL 100M 16 | C95, C96 | |
| CGB R47K 500 | C4 | |
| ACH-217 | C122, C123 | |
| ACG-004 | C125, C126 | |
| CEA 101M 35L | C121 | |

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

RESISTORS

| Part No. | Symbol & Description | |
|--------------|---|----------------------------------|
| ACT-128 | VR1 | Variable resistor (VOLUME) |
| ACT-023 | VR2 | Variable resistor (BALANCE) |
| ACT-129 | VR3, VR4 | Variable resistor (BASS, TREBLE) |
| ACP-079 | VR5 | Semi-fixed resistor |
| ACN-118 | R127, R128 | Cement coated |
| RD%PM □□□ J | R1—R26, R28—R43, R45—R122, R136, R140, R153, R154 | |
| RN%PQ □□□□ J | R27 | |
| RD%PS □□□ J | R44, R131—R134, R141—R145 | |
| RD%PSF □□□ J | R125, R126, R146 | |
| RD%PMF □□□ J | R123, R124, R129, R130, R135 | |

SEMICONDUCTORS

| Part No. | Symbol & Description |
|-----------|----------------------|
| 25K168 | Q1 |
| 25C535 | Q2, Q4 |
| 25C461 | Q3, Q9, Q11 |
| TA7303P-C | Q5 |
| HA1156W-P | Q6 |
| 25A726S | Q7, Q8, Q10 |
| NJM4558DX | Q12 |
| 25A798 | Q13, Q14 |
| 25C1775A | Q15-Q18 |
| 25C945A | Q19, Q20 |
| 25A720 | Q21, Q22 |
| 25C1318 | Q23, Q24 |
| 25B507P | Q25, Q26 |
| 25D313P | Q27, Q28 |
| 25D880 | Q29 |
| (25D313) | |
| 25A733A | Q30 |
| △ GP-20D | D1-D4 |
| KZL140 | D5 |
| KZL130 | D6 |
| 1S2473 | D7, D9-D11, D14-D16 |
| (1S1555) | |
| 2-1K261 | D8, D13 |
| MZ-081 | D12 |

OTHERS

| Part No. | Symbol & Description |
|--------------|------------------------|
| AKA-016 | Terminal (ANTENNA) |
| AKE-048 | Terminal (SPEAKERS) |
| AKB-063 | Terminal (INPUT, TAPE) |
| AEC-24B | Insulator spacer |
| VBZ30P060FMC | Screw |
| BBT30P080FZK | Screw |
| PMZ30P040FMC | Screw |
| PMZ30P060FMC | Screw |